Bear Market Strategies; or, How I Learned to Stop Holding and Love the Death Cross

By Greg Gazurian

“The best profit of future is the past” - Chinese fortune cookie

Traditionally, buy-and-hold investors have sought to buy low and sell high to maximize their returns. Although this sounds attractive, there are several problems with using only this approach to the stock market. One of the most common issues is the notorious “round trip”, where the investor buys the stock at a relatively low price, holds the stock as it goes up and then continues to hold as the stock loses the gains until it returns to the price at which it was bought. Unfortunately, many investors have found themselves still holding after the gains disappear and losses continue, hoping the stock will make a comeback rally. Some buy even more, regardless of the losses they are still holding, in a feeble attempt to offset the losses by buying when it’s “really cheap”. This type of averaging down happens when emotions overtake logic and is usually for the worst.

Look at how the buy-and-hold investor begins to invest in the market. First, the buy-and-hold investor must be able to determine the current value of the stock. Fundamental analysis of a stock is the most commonly used method to gauge market value. One of the basic prerequisites for fundamental analysis is that the fundamental accounting data or financial outlook the company provides is accurate and a real reflection of the company’s business status for that reporting period. However, what is the individual investor to do when the fundamental picture the company presents is untrue? How can an individual invest in a company he has evaluated to be a “good buy” and still protect his investment from potentially inaccurate, misleading information? Is there any way for an individual investor to hedge against unforeseen circumstances, which will negatively affect the market or stock that is part of his buy-and-hold investment strategy?

Implied volatility, or the estimated volatility of a securities price, sharply increased in early 2007. In fact, 2/27/07 was the largest single-day percentage increase in the history of the VIX (CBOE Volatility Index) ‡. The vicissitudes in the markets and perspectives regarding them make gauging the markets’ directions difficult at best. Wild swings in today’s markets make for many “round trips” or worse for the buy-and-hold investor.

One such example of the quickly changing times is the housing market. Three years ago, the housing market was so hot that every Joe Shmo was getting a second mortgage as an investment. Now we see that the housing market was another bubble gone bust, as the ongoing global credit crisis continues to unfold. Hedge funds and major financial institutions lost out trying to play the subprime mortgage market shell game. How could an individual investor with no inside information and limited resources possibly have protected his credit crisis related investments?

Technical analysis can show insight into stock price behavior not reflected in fundamental analysis. Research has shown stock price patterns can provide information that may be useful to an investor. Based primarily on the historical price movements of a stock or other financial instrument over a period, technical analysis requires no emotions or human interpretation of events. Therefore, once a technical analysis indicator parameter is determined, a trade is triggered when the predetermined trade criteria has been met. Strategies based solely on technical analysis can provide automated trade execution. Back testing, or the simulation testing of your technical analysis based strategy over a period of time, is the best way to compare performance of different strategies against the market or specific stocks. Currently, back testing is used to figure out which technical indicators work best and what criteria are optimal for a specific security or market, so this fine-tuning process can be very time consuming. Although past performance does not guarantee future return, certain technical analysis based strategies continue to show their advantage over buy-and-hold.

Can an automated technical analysis strategy prove during back testing that it increased performance, reduced risk and warned when to exit a long position before a “round trip”? Specifically, I wanted to see how a strategy utilizing technical analysis might have benefited an investment made in the worst industry and sectors (housing, financial and consumer discretionary) before and during the credit crisis compared to a pure buy-and-hold strategy. Some top industry and sector investments (energy, gold, and tech) are also included to test bull market effectiveness as well. Back testing on Charles Schwab’s StreetSmart Pro† utilized about a two-year period, which was 503 days (07/25/06 to 07/23/2008). Settings for back testing were day periods, default Sharpe Ratio Risk Free Rate of 1.5% and $9.95 commission per trade. Initial equity was $10,000 and the trade size was $5,000 per trade. This was done to prevent the cash balance from ever going negative (i.e. short sell borrowing induced debt) and to maximize profitability of trades. Technical indicators are calculated using close of day prices, so trades are triggered to execute for the next day open. There were two different strategies back tested against the following symbols: SPX, SPY, DIA, QQQQ, SHGX, XLF, XLY, XHB, HOV, FRE, FNM, BAC, C, CIT, LEH, JPM, USO, GLD, POT, MA, FSLR and RIMM.

Strategy #1 utilized three technical indicators to trigger trade actions for entering and exiting long and short equity positions. The first indicator is a (10, 50) SMA or Simple Moving Average Crossing. When the 10-day SMA moves above the 50 day SMA, a long position enters and/or a short position exits. The second indicator is a (12, 26) MACD or Moving Average Convergence Divergence and (12, 26, 15) Signal Line Cross. MACD is the default 12-day exponential moving average subtracted by the 26-day exponential moving average. The Signal Line is typically a 9-day exponential moving average of the MACD. I increased the period to 15 to create a less frequent trigger that minimizes whipsaws created by volatile markets. When the (12, 26) MACD moves above the (12, 26, 15) Signal Line, a long position exits/short position enters. The third and last indicator is a (14, 14, 1, .75, .25) Stochastic RSI or Relative Strength Index Level Cross. Default 14 day periods are used for the Stochastic and RSI calculations with a slowing period of one. The Stochastic RSI represents the percent change from the previous 14 days range.

One such strategy proved during back testing that it increased performance, reduced risk and warned when to exit a long position before a “round trip”. Specifically, I wanted to see how a strategy utilizing technical analysis might have benefited an investment made in the worst industry and sectors (housing, financial and consumer discretionary) before and during the credit crisis compared to a pure buy-and-hold strategy. Some top industry and sector investments (energy, gold, and tech) are also included to test bull market effectiveness as well. Back testing on Charles Schwab’s StreetSmart Pro† utilized about a two-year period, which was 503 days (07/25/06 to 07/23/2008). Settings for back testing were day periods, default Sharpe Ratio Risk Free Rate of 1.5% and $9.95 commission per trade. Initial equity was $10,000 and the trade size was $5,000 per trade. This was done to prevent the cash balance from ever going negative (i.e. short sell borrowing induced debt) and to maximize profitability of trades. Technical indicators are calculated using close of day prices, so trades are triggered to execute for the next day open. There were two different strategies back tested against the following symbols: SPX, SPY, DIA, QQQQ, SHGX, XLF, XLY, XHB, HOV, FRE, FNM, BAC, C, CIT, LEH, JPM, USO, GLD, POT, MA, FSLR and RIMM.

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Letter from the Regions Chair

In a period of incredible financial turmoil, the local MTA chapter meeting can provide you with two essential benefits: hearing from some of the best and brightest experts in our field, and networking with other technical analysis professionals in your immediate area.

Due to the hard work of many of the chapter chairs, the local meetings are seeing strong attendance and a growing interest from the investment community. I’d like to specifically recognize Sean Kolloff and Tom Talashek for giving new life and energy to the Boston and Chicago chapters, as well as Carson Dahlberg and Craig Fullen for managing a successful launch for the Charlotte and Columbus chapters. They have focused their time and energy on building out our organization, and we should all be appreciative of what they have done.

We are using more technology in the local meetings than ever before. We have successfully linked five chapters via webcasts and conference calls, allowing us to take advantage of the wealth of potential speakers across the country. One of the goals for 2009 is to have every chapter in the country participate in at least one of these valuable sessions. Having participated in a number of these events, I can tell you firsthand that they provide a great opportunity to bring together local members and use another chapter’s meeting as a way to facilitate a great discussion on the markets.

There is so much more that we can do. If you are not participating in your local chapter meetings, you are missing a key value to your membership in the MTA. The MTA website has a map of the United States with a listing of all of the regions. Look at what other chapters are doing to help their members manage the current market environment. Reach out to your local chapter chair, and let them know what you would like to see in your region. If you don’t have a local chapter, now is the time to create one. You would like to print while being constrained by our format limitations.

I am working closely with the MTA staff to find the best way to deliver high-quality content, and we want to make it more timely, as well. Our goal is to deliver more value for your membership, and the staff has been very responsive in trying to do this. Their efforts are not limited to the newsletter – they look to improve the organization and our benefits as they work for us every day. So we can’t say when we’ll have a solution, but as soon as possible we will expand the information we deliver to you monthly.

This month’s newsletter focuses on quantitative techniques. A few investment techniques are presented in great detail, along with back-tested results. You should be able to work with these ideas immediately and make them your own. Profitable trading ideas are one membership benefit that we hope you find among the most valuable.

But in bringing you this type of research, we quickly identify the limits of our ability to present readable graphics. The charts need to improve, and that is one of the things we will accomplish as we look at different formats.

Sincerely,
Mike Carr, CMT
Editor

Letter from the Editor

We had to add two more pages this month to fit all the content that we think you want and deserve as members of the Market Technicians Association. Technical analysis is a dynamic field and we all struggle to keep up with new developments. We read a lot of research and MTA news and as we prepare Technically Speaking each month, we struggle to fit in all the content that we would like to print while being constrained by our format limitations.

I am working closely with the MTA staff to find the best way to deliver high-quality content, and we want to make it more timely, as well. Our goal is to deliver more value for your membership, and the staff has been very responsive in trying to do this. Their efforts are not limited to the newsletter – they look to improve the organization and our benefits as they work for us every day. So we can’t say when we’ll have a solution, but as soon as possible we will expand the information we deliver to you monthly.

This month’s newsletter focuses on quantitative techniques. A few investment techniques are presented in great detail, along with back-tested results. You should be able to work with these ideas immediately and make them your own. Profitable trading ideas are one membership benefit that we hope you find among the most valuable.

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Mike Carr, CMT
Editor

Submitting an Article

If you are interested in submitting an article in the MTA’s monthly newsletter, please e-mail the editor Michael Carr, CMT at: editor@mta.org

If you have any questions about Technically Speaking please contact Tim Licitra at: tim@mta.org
Quantitatively Speaking
by Richard Tortoriello

Of all investing disciplines, technical analysis should be the most amenable to quantitative research. I define quantitative research simply as the use of a computer and a database to identify investment factors that have historically been predictive of future excess returns (or returns above a market benchmark). Technical analysts rely on historical price and volume patterns to predict future price movement. Applying a computer to this task seems natural, and to the uninformed might seem easy.

In practice, however, much of technical analysis is an art, as is all else in the field of investment. A price pattern that works under one set of conditions may not work under another. What is easy for the eye and the brain to identify—a head and shoulders top, for example—can be very difficult to translate into computer code.

However, certain technical factors are relatively simple to model quantitatively. In this article, I’ll present a couple technical factors that performed well in the quantitative tests I conducted. The factors presented are simple, and should be nothing new to most technical analysts. What I hope to show, however, is that the excess returns provided by these technical factors can be made more consistent, and in many cases much higher (or lower, for short-sale strategies), by combining those technical factors with fundamental and valuation factors that also tested well quantitatively.

Sam Stovall, the chief investment strategist at Standard & Poor’s, introduced me to the phrase, “Fundamental analysis tells you what, but technical analysis tells you when.” With characteristic wit, Sam added “and quantitative analysis can tell you why.” I might put it slightly differently: quantitative analysis, done correctly, can provide investors with empirical evidence of the basic drivers underlying stock market returns. (But Sam’s quote is more memorable.)

John Murphy’s ground-breaking work on intermarket analysis enlarged and, perhaps, revitalized the field of technical analysis. Mr. Murphy’s work shows not only how the various financial markets are linked, but also how changes in one market (for example, a falling dollar) can foreshadow economic changes (e.g., rising commodity prices) that are significant in predicting changes in other markets (e.g., the bond and stock markets). I believe that these links between technical analysis and economic analysis warrant further exploration. My work certainly shows clearly that technical analysis and fundamental analysis (at the level of the microcosm—the individual company/stock), far from being mutually exclusive disciplines, work together in predicting future stock performance.

Nearly two years ago, I was asked to develop a series of quantitative stock selection models for the Equity Research department of Standard & Poor’s. In preparation for this project, we backtested over 1,200 different investment strategies, to determine which were predictive of future excess returns. (A backtest is simply a statistical look at historical data to determine if employing a given investment factor, such as selecting stocks with low P/E ratios, results in excess returns over time.)

My goal was to determine the basic factors that drive stock future market returns, from an empirical point of view, using only historical data as our raw material (balance sheet, income statement, cash flow statement, and pricing data).

In short, I set out to create a quantitatively-drawn “road map” of the equity markets. To do our research, we used a sophisticated data-analysis program (Charter Oak Investment Systems’ Venues data engine) and Standard & Poor’s own Point in Time database, which contains over 20 years of “as originally reported” (unrestricted) data for about 150 data items and 25,000 individual companies.

This data-intensive approach to investment analysis yielded clear results. Certain strategies consistently outperformed the market over our two-decade test period, while others consistently underperformed. The results of this research will be published in an upcoming book, Quantitative Strategies for Achieving Alpha (McGraw-Hill, November 2008). In it, I present a wide variety of investment strategies that predict excess returns, and show investors how to combine individual investment strategies into more complex screens and models that can be used to generate strong potential investment ideas, create quantitative portfolios, or simply better understand the market from a quantitative point of view.

In structuring our backtests, we kept in sight one basic principle: numbers can lie. If a backtest is not constructed carefully, or if too few years of data are used, backtest results will be unreliable.

The researcher must consider different forms of statistical bias, such as look-ahead bias and survivorship bias (our database protected our tests from both). Returns must be calculated consistently—we used a stock’s annual price change plus dividends and cash-equivalent distributions of value (such as spinoffs). And a clear backtest universe must be defined: ours consists of the largest 2,200 stocks in our database selected by market capitalization with a minimum share price constraint ($2, to keep out volatile penny stocks).

Each test divides the companies in our backtest universe into quintiles (groups of five) based on their rank on one or more investment factors. For example, a P/E ratio test would put the 20% of companies with the lowest P/E ratios into the first (top) quintile, the next 20% into the second quintile, all the way down to the 20% of companies with the highest P/E ratios, which would be put into the bottom (fifth) quintile.

Portfolios representing each quintile are formed every quarter over our test period, and the holding period for each portfolio is 12-months. Returns for all portfolios in each quintile are then calculated, averaged over our 20-year test period, and compared to the average return over the same period for the overall universe. A strategy is said to have investment value if the top quintile significantly outperforms the Universe, the bottom quintile significantly underperforms, and outperformance/underperformance is consistent over time.

I like to use the idea of a mosaic to describe the results of our quantitative tests. A mosaic is a picture or pattern made by putting together many small colored tiles. In a real mosaic, each tile is meaningless when viewed alone, but when put together by an artist, a beautiful pattern emerges. In our investment mosaic, each “tile” is a strategy that has investment value (it consistently outperforms or underperforms the market) and is understood by the investor (we know why it works).

The second point is critical. Data mining—the search for correlations between items in a database—can uncover investment strategies that work fabulously during the test period, and fail to work thereafter. By basing the investment strategies we test on sound investment theory, we ensure that the results represent fundamental principles and tendencies in the investment markets and not statistical anomalies. When all the investment strategies presented in the book are put together, a mosaic emerges that shows quite clearly “what drives the market” from a quantitative point of view, and what characteristics to look for or to avoid in the companies and stocks in which we plan to invest.

So, what can investors learn from quantitative analysis? From a technical point of view, two strategies that worked well quantitatively were relative strength and 52-week price range. Our testing showed that using a seven-month period to calculate relative strength produced the best combination of excess returns and consistency over time, given our 12-month holding period. The 52-week price range strategy measures the proximity of a stock to its 52-week high or 52-week low. The formula is (current price – 52-week low)/(52-week high – 52-week low).

The top quintile of the seven-month relative strength strategy generated average excess returns of 3.3% over our 20-year test period, and the bottom quintile generated negative excess returns of 3.4% (i.e., it underperformed our backtest universe by an average of 3.4%). However, the top quintile only outperformed the universe for 60% of the one-year periods tested, and showed the highest degree of outperformance from 1999 to 2000 (not an ideal characteristic for a quantitative test). The bottom quintile was much more consistent, underperforming for 74% of the one-year periods tested.

The 52-week price range strategy had higher excess returns and was more consistent. The top quintile outperformed by an average of 4.3% over our 20-year test period, and did so for 75% of the 1-year periods tested. The bottom quintile underperformed by 3.9%, and did so for 79% of...
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Strategies vs. buy-and-hold for both the credit crisis affected stocks and the market benchmarks.

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RSI to the present. Only moves falling below .75 (75%) trigger a long position entry.

Strategy #2 is one of the most basic since it utilizes just one technical indicator to trigger trade executions. The indicator is a (50,200) SMA Cross. When the 50-day SMA moves above the 200-day SMA, a new long position opens and any short closed. Inversely, when the 50-day SMA moves below the 200-day SMA, a new short position opens and any long closed. Institutional traders know the former as a “Death Cross” and the latter a “Golden Cross.”

Strategy #1 clearly shows that it beat buy & hold for both situations. Up 10.95% against the credit crisis stocks and 6.12% for the market while buy-and-hold was down -14.32% and up 5.09%.

Earliest trade dates for strategies using technical analysis show how effective strategies are for anticipating bear and bull market conditions. The parameter for earliest trade consists of a profit trade held for at least 2 months. This trade should also be consistent with the beginning or end of a bear or bull market.

Strategy #1’s earliest short entry date for the SPY bear market was 10/17/07 at $154.25 (Figure 1). This trade exited almost 6 months later on 4/4/08 at 136.89 for an 11.25% gain in closed profit. Had an investor used buy-and-hold, he would be around the break even or “round trip” point. There were no long position entries for Strategy #1 that qualified as bull market indicators for SPY or any of the equity instruments back tested.

Strategy #2’s earliest short entry date for the SPY bear market was 12/24/07 at $148.82 (Figure 2). This trade is still open 7 months later for a 14.11% gain in open profit. The earliest long entry date for the SPY was 9/12/06 at $130.56 and held for about 15 ½ months. Before the long entry breakeven point (1st red line) first reached on 1/18/08, the long position exited for an 11.75% gain in closed profit and entered the short position (2nd red line, short entry breakeven point). The $125.98 breakeven point (green line) for buy-and-hold on 7/25/06 now seems to serve as a support point.

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and resistance level for SPY.

Only Strategy #2 offered long entries into the following bull markets: SPY, QQQQ, GLD, USO, POT and RIMM. Of those long entries, all but SPY and QQQQ are still open for an average open position gain of 120.98%. The buy-and-hold open position average gain for those same four stocks is 139.73%. Even more, the buy-and-hold strategy made its greatest open position gain of 477.38% from FSLR and third greatest of 247.4% from MA, both of which were the only stocks not to trigger a trade by Strategy #2. Since both of these stocks were IPO’s in 2006, there is not as much price data for the SMA periods to be useful for long entry points. FSLR started trading November 2006; the 200-day SMA did not plot on the chart until September 2007. MA started trading May 2006; the 200-day SMA for MA begins in March 2007. If shorter SMA periods are used, then there is a greater likelihood of a long entry trade execution. Adding a (20, 50) day SMA crossover strategy for stocks with a shorter trading history, as another way to enter a long position, would have allowed open long positions up 125.85% for FSLR and 148.85% for MA.

The main advantage of the buy-and-hold strategy is also its greatest weakness. Although a stock held during a time of weakness is not a loss unless sold, there is no way of knowing if or when a stock will recover from the weakness. Inversely there is no way of knowing when to buy during a time of strength. Falling stock prices might seem like a discount buy time for a value-oriented investor since it lowers the P/E ratio, but it may also be a potential short sell candidate due to expectations of lower future earnings growth, hence the reduced price.

Stocks such as Bear Stearns (BSC) and Countrywide Financial (CFC)† are examples of what goes down might never come back up. Bear Stearns was one of the largest global investment banks, founded in 1923, survived the Great Depression and many recessions. Countrywide Financial was the nation’s largest mortgage lender, founded in 1969 and traded on the NYSE since 1985. BSC (Figure 3) was just at an all time high of $171.51 on 1/12/07 and CFC (Figure 4) was just at a 4yr high of $45.03 on 2/2/07 before they both hit all time lows and stopped trading 5 months later at $9.33
Bear Market Strategies
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Figure 3: BSC daily chart during back testing period. Buy-and-hold from 7/25/06 to 5/30/08 (last trading day) down -93.18% vs. a 7.6% gain (closed profit) if long position closed using the Death Cross. If a short position entered when the long closed, a 93.67% increase would make the total performance 50.67%. Strategy #2 would have a total performance of 93.67%, since there was no Golden Cross for the period.

on 5/30/07 for BSC and $4.25 on 7/1/08 for CFC. Fortunately, buyouts rescued both companies so shares of each did not go to $0. JP Morgan (JPM) originally offered BSC shareholders $2 a share, then $10 and Bank of America (BAC) offered CFC shareholders .1822 shares of BAC for every one of CFC.

Figure 4 is located on page 8

Buy-and-hold is unforgiving, it is an all or nothing bet. A high performance stock whose price goes up and never down cannot fail with a buy-and-hold investment, but this is usually the rare exception. With buy-and-hold, your stock must eventually go higher than the price at which you bought, of which there is no guarantee. There is not even a buy-and-hold rule for selling a stock for a loss or profit. At the very least, a technical analysis based strategy can prevent a loss and lock in a gain (closed profit) of a high performance stock.

Augmenting buy-and-hold for entering long positions with an exit strategy like the Death Cross to close long positions, the investor has an unbiased way to determine when a specific stock or market is weakening or bear. This type of trade would have yielded the 477% and 247% gain of open profits for FSLR and MA that buy-and-hold achieved, but with the downside protection guaranteed by the Death Cross. By adding the entry of a short position whenever a long position is exited, an investor can not only have a way to close profits when the stock or market is weak, but can hedge against the weakness by the open profit of the short position.

‡Charles Schwab’s Street Smart Pro® ver.4.18.9
‡Bear Stearns (BSC) and Countrywide Financial (CFC) were no longer trading at the time of this article. Street Smart Pro ver.4.18.9 did not provide price history for either stock.

2. Final short positions (Death Cross trades) do not close with Strategy #2 for this period. Short trade performance is potential profit unless short positions closed on the last trading day.

Greg Gazurian has been trading stocks and options since 1998. He is an MTA affiliate from the Philadelphia Chapter, has completed level I of the CMT exam program. Greg worked over 9 years in IT for SunGard’s Market Data Services and CSA groups. Currently, he is seeking a position as a technical/research analyst. Email greg.gazurian@gmail.com.
the 1-year periods tested. It was also less volatile than seven-month relative strength: the top quintile of 52-week price range had a Beta (versus our universe) of 1.0 and a standard deviation of returns of 0.18; the top quintile of seven-month relative strength had a Beta of 1.3 and a standard deviation of returns of 0.26.

However, these simple price momentum factors can be improved significantly by combining them with fundamental and valuation factors. Our testing employs a building block approach to quantitative analysis. The building block approach begins with seven major investment categories that our testing showed to be predictive quantitatively: profitability, valuation, cash flow, growth, capital allocation, price momentum, and red flags (risk). I call these categories the basics precisely because they are fundamental to achieving excess returns in the stock market.

Within these seven categories, we identified over 40 individual investment strategies that consistently produce excess returns. The seven-month relative strength and 52-week price range strategies, presented above, are two of these. I call these single-factor strategies building blocks. By combining a large number of building blocks, in simple two-factor tests, we learned which investment strategies work well together and which do not. These single-factor and two-factor tests form the heart of my book and help investors to form the mental mosaic of the stock market described above.

Combining two technical strategies, for example 52-week price range and seven-month relative strength, results in higher excess returns (about 9% for the top quintile) but in much higher volatility (a Beta of 1.50 for the top quintile). The strategy has extremely high excess returns from 1998 through 2000, but otherwise is not unusually impressive and has weak consistency.

However, combining a technical factor with a valuation factor results in high excess returns along with strong consistency and low volatility. For example, combining 52-week price range with free cash flow to price—a strong valuation factor—produced excess returns of 6.9% for the top quintile and 9.5% for the bottom quintile. (Free cash flow equals cash from a company’s operating activities minus capital expenditures over the past 12 months.) The top quintile outperforms for 75% of 1-year periods and the bottom quintile underperforms for 82% of 1-year periods. Beta for the top quintile of 52-week price range and free cash flow to price drops significantly, from 1.0 for 52-week price range alone, to 0.8 for the combined strategy.

Selecting stocks by valuation first further improves excess returns. (In our two factor tests,
we select portfolios based only on the first factor first, and from the set that remains, we select the final portfolio based on the second factor. So, the first factor is always given more “weight” than the second in these tests.) For example, the free cash flow to price and seven-month relative strength strategy resulted in excess returns of 9.5% for the top quintile and 8.6% for the bottom; consistency is high and volatility (of the top quintile) is low.

Valuation and price momentum make a natural pair, since valuation factors identify stocks that are “cheap,” while price momentum indicates that investors may see a catalyst (fundamental or otherwise) likely to turn the stock around. So-called “value” stocks often stay cheap for a long time. On the other hand, stocks with high price momentum sometimes sport very high valuations and are subject to significant declines on minor disappointments. The combination of valuation and price momentum ensures that a stock has both value and the potential for near-term price appreciation.

Another technical/fundamental combination that works well is price momentum and capital allocation. Capital allocation strategies look at what a company does with its excess cash. Positive capital allocation strategies, from a quantitative point of view, are share repurchases, debt reductions, dividend payments, and moderate levels of capital expenditures. Negative capital allocation strategies include large share and debt issuance, high levels of capital expenditures, and large business acquisitions.

Companies that significantly reduce their outstanding share count over a one-year period, for example, outperform. However, companies that significantly reduce shares and have strong relative strength have even higher excess returns. The top quintile of the one-year reduction in shares strategy generates average excess returns of 3.1%, and does so for 69% of one-year periods tested. However, the top quintile of the one-year reduction in shares and seven-month relative strength strategy generates excess returns of 5.8%, and does so for 70% of one-year periods.

Likewise, the bottom quintile of the one-year reduction in shares strategy, alone, generates average negative excess returns of 5.2%, and does so for 79% of the one-year periods tested. However, the bottom quintile of the one-year reduction in shares and seven-month relative strength strategy generates negative excess returns of 10.7%, and does so for 86% of one-year periods.

Although the valuation/price momentum combination presented above generates strong and consistent results, an even stronger combination can be formed by adding a profitability factor. The long screen I’ll present here (Table 1) takes advantage of three strong factors: operating profit to invested capital (profitability), free cash flow to price (valuation), and 52-week price range (price momentum). Operating profit is calculated as 12-month operating income minus depreciation expense. The complete screen is written as follows:

- operating profit to invested capital > 20%
- free cash flow to price > 8%
- 52-week price range > 60%

The values for this screen were taken from the appendix of my book, which provides the average portfolio values over time for each of the building blocks presented in the book. Screen values will vary depending on market and economic conditions. For example, average values for the top quintile of the 52-week price range strategy have varied from a low of 46% in 1987 to a high of 96% in 2003. I chose 60%, simply because using a higher value in the midst of a severe primary downtrend (as of October 2008) meant that very few stocks would pass the screen. Note that data for this screen is as of September 30, 2008.

An 18-year backtest of this screen yields the following results: Compound annual growth for the strategy of 18.9% versus a CAGR of 10.3% for the backtest universe, outperformance versus the universe for 94% of one-year periods tested, a maximum loss over any 1-year period of 10%, and a Beta versus the universe of 0.90. The accompanying table shows select stocks chosen from this screen, which generated 25 companies using data as of September 2008. I narrowed the screen primarily by choosing stocks that looked best from a technical point of view.

This screen is an example of one major conclusion of our work: fundamentals matter, valuations matter, and technicals matter. The investor looking to achieve strong stock market returns over a six-month to one and one-half year investment horizon would do well to consider all three of these factors.

Table 1: Quantitative Screen

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<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>APPLIED BIOSYSTEMS INC</td>
<td>ABI</td>
<td>5,806</td>
<td>29%</td>
<td>8%</td>
<td>62%</td>
</tr>
<tr>
<td>EZCORP INC -CL A</td>
<td>EZPW</td>
<td>723</td>
<td>28%</td>
<td>9%</td>
<td>95%</td>
</tr>
<tr>
<td>QUESTCOR PHARMACEUTICALS INC</td>
<td>QCOR</td>
<td>488</td>
<td>90%</td>
<td>9%</td>
<td>98%</td>
</tr>
<tr>
<td>RLI CORP</td>
<td>RLI</td>
<td>1,326</td>
<td>27%</td>
<td>9%</td>
<td>64%</td>
</tr>
<tr>
<td>SAIC INC</td>
<td>SAI</td>
<td>3,894</td>
<td>25%</td>
<td>10%</td>
<td>63%</td>
</tr>
<tr>
<td>STIFEL FINANCIAL CORP</td>
<td>SF</td>
<td>1,267</td>
<td>20%</td>
<td>11%</td>
<td>70%</td>
</tr>
<tr>
<td>CEC ENTERTAINMENT INC</td>
<td>CEC</td>
<td>752</td>
<td>21%</td>
<td>12%</td>
<td>68%</td>
</tr>
<tr>
<td>DREAMWORKS ANIMATION INC</td>
<td>DWA</td>
<td>2,534</td>
<td>25%</td>
<td>13%</td>
<td>74%</td>
</tr>
<tr>
<td>CSG SYSTEMS INTL INC</td>
<td>CSGS</td>
<td>613</td>
<td>25%</td>
<td>17%</td>
<td>61%</td>
</tr>
<tr>
<td>COMFORT SYSTEMS USA INC</td>
<td>FIX</td>
<td>529</td>
<td>24%</td>
<td>17%</td>
<td>62%</td>
</tr>
<tr>
<td>NVR INC</td>
<td>NVR</td>
<td>3,104</td>
<td>28%</td>
<td>17%</td>
<td>62%</td>
</tr>
<tr>
<td>ARCH CAPITAL GROUP LTD</td>
<td>ACGL</td>
<td>4,390</td>
<td>22%</td>
<td>31%</td>
<td>84%</td>
</tr>
</tbody>
</table>

Source: S&P Compustat, Charter Oak Invest. Systems

Note: Data as of 9/30/08

Another important conclusion is that quantitative analysis, qualitative analysis, and technical analysis form mutually complementary disciplines—investors who learn the lessons taught by each are apt to increase their ability to make money consistently in stocks.

Richard Tortoriello is the aerospace and defense analyst in the equity research division of Standard & Poor’s and has also conducted numerous quantitative investment studies for the company. He is responsible for buy, sell, and hold recommendations on twenty-five aerospace and defense-related stocks, including General Electric, Boeing, United Technologies, Lockheed Martin, and Honeywell. He has been interviewed numerous times for Bloomberg Television, CNBC, BBC TV, CNN, The Wall Street Journal, The New York Times, and The Washington Post.

Photo courtesy of Lisa Hancock

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If you are interested in advertising in the MTA’s monthly newsletter or journal, you can find a listing of our advertising rates on our website.

Please e-mail Tim Licitra at: Tim@mta.org if you wish to submit an advertisement or have any questions.
New CMTs

Several times throughout the year, the MTA would like to recognize those that have been granted the CMT designation. During this time period, July '08 - October '08, the new CMT charter holders are as follows:

Ryan Abrahamson, CMT
Thomas Akin, CMT
Samuel Beaudry, CMT
Christian Bendixen, CMT
Jeremy Berkovits, CMT
Brian Billingsley, CMT
Casey Broadbent, CMT
Nicolas Burki, CMT
Alberto Camara, CMT
Gregory Casals, CMT, CFA
Craig Coletta, CMT
Yves Courtois, CMT, CFA
Mark Dolan, CMT
Yuko DuBois, CMT
Jason Farkas, CMT
Edwin Fong, CMT, CFA
Royal Fowler III, CMT, CFA
Karsten Gaebele, CMT
Ruedi Goldi, CMT
Subodh Gupta, CMT
Geoffrey Hall, CMT, CFA
Robert Hill, CMT
Manish Jaradi, CMT
Nick Jensen, CMT
QiZhe JIN, CMT, CFA
Durham Jones, CMT
Michael Kahn, CMT
Donald Kong, CMT
Wayne Lai, CMT
Keene Little, CMT
Brent Madel, CMT
Scott McCormick, CMT
Juan Parets, CMT
Kenneth Rose, CMT
Jeffrey Russo, CMT, CFA
Christoph Sieger, CMT
Gregory Soldatenko, CMT
Debra Stotler, CMT, CFP
Ajbinder Sull, CMT, CFA
Michael Tarsala, CMT
Tim Taschner, CMT, CFP
James Thomas, CMT, CFA
Matthew Trump, CMT
Michael Turvey, CMT
Rokas Varaneckas, CMT
Wilfred Wee, CMT
Brandon Wendell, CMT
Denrik Wong, CMT
Anthony Zmuda, CMT

A Book Review:
Quantitative Strategies for Achieving Alpha by Richard Tortoriello

Reviewed by Mike Carr, CMT

Richard Tortoriello leaves no stone unturned in a thoroughly documented search for strategies that allow portfolio managers to deliver market-beating returns. He begins with a short summary of his investing philosophy, illustrated in the first figure of the book and reproduced below.

Figure 1.1 Fundamental, Quantitative, and Technical Analysis

When first presented in a Standard & Poor’s research report, he wrote:

“We believe that, given the complexity of the financial markets, an analytical approach that integrates the three disciplines may yield superior insights and investment decisions:

• Fundamental analysis provides the important hypotheses about economic, industry, and company-specific trends, upon which good investment decisions are made.
• Quantitative analysis allows the investor to take a wide-angle view of a variety of fundamental trends that might otherwise be difficult to encompass.

• Technical analysis provides a summary analysis of investor expectations for a wide variety of assets, and offers clues as to timing for investment ideas.”

In Quantitative Strategies for Achieving Alpha, Tortoriello builds on this philosophy and presents research that supports the need to include all available information in the investment and trading process.

In the end, he presents a myriad of quantitative investment strategies built around what he calls the seven basics that drive future stock market returns:

1. Profitability
2. Valuation
3. Cash flow generation
4. Growth
5. Capital allocation
6. Price momentum
7. Red flags (risk)

He also makes a compelling case that other factors drive past returns. And he concludes that the data shows the factors which explain the past are not necessarily the best at predicting the future. This insight alone is worth the price of the book.

The book offers something for analysts of all levels. By employing a building-block approach to quantitative analysis, Tortoriello provides a “how-to” manual for the novice. By providing detailed, backtested results of more than 20 proven investment screens for generating winning investment ideas, based on 42 single-factor and nearly 70 multi-factor models, Tortoriello presents the experienced quant with a host of ideas to improve their own modeling.

Of interest to technicians, he does demonstrate the effectiveness of relative strength. But surprisingly, he finds that Wilder’s Relative Strength Index (RSI) calculated over very long timeframes is the most effective technical tool. It is also among the best quantitative factors tested, and profitable trading strategies can be built using just RSI.

Published by McGraw-Hill, $70.00, 480 pages

Go Green with Technically Speaking

As you know, the MTA archives every issue of the Technically Speaking Newsletter on the mta.org website. For those of you who wish to read this monthly publication online only (in PDF format), please e-mail Tim Licitra at tim@mta.org.

He can remove you from this mailing list and make sure that you only receive the e-mail notification that it has been posted to the website.
Investment Courses For Professionals

A sample of a growing list of fundamental and technical courses is shown below. The courses are associated with global destinations and dates, both for open and private client formats in 2008-9. They are produced by various knowledge vendors throughout the world (some listed below). Specific details can be provided by contacting them, or John Palicka (palicka@pipeline.com).

- Taught by John Palicka CFA CMT -

FUSION ANALYSIS
This is a professional approach that blends fundamental, technical, behavioral and quant strategies. The approach attempts to exploit profitable opportunities in market investing by both investors and traders. Whilst the course focuses on US equities, other asset classes, such as, fixed income, commodities, FX, real estate, and GCC stocks will also be analyzed. Given the plethora of strategies, the workshop will help create focused approaches to meet specific investment objectives. Fusion Analysis can create: “The better approach to investing”

EQUITY PORTFOLIO MANAGER
Serious managers will utilize this course to analyze leading Wall Street valuation models and investment strategies for equities using fundamental, behavioral/technical and quant approaches, and then study how these are modified by the best performing equity portfolio managers to produce risk-adjusted excess returns. Also reviewed are: accounting and cash flow tricks that are sidestepped by professional investors, but punish many investors; various trading strategies, incorporating algorithms, hyper-trading, dark pools, and derivatives; new reporting requirements for regulatory considerations, consultants and clients as well as fund marketing techniques; and career advice to get the big bonus checks. An interactive investment workshop reinforces these skills when participants get to select stocks, choose a performance measurement method and then determine a marketing style and vehicle to create an investment approach producing excess returns. Case studies examining the investment approaches of leading versus average performing portfolio managers are also included. This intensive course goes beyond basics into the sophisticated and subtle strategies that can help achieve: “Top Quartile Manager”

INVESTMENT FUND SELECTION
This is a must attend course for all professionals involved in the selection and management of third-party investment managers. Investment Fund Selection offers an insiders perspective into the various challenges in determining the most appropriate fund structure, managerial style and fund value-added performance of third-party investment managers in order to achieve individual investment objectives. Portfolio theory considerations and statistical issues are discussed with behavioral considerations.

Reviewing different fund structures, such as mutual funds, private equity and hedge funds, participants explore regulatory, audit, established and recent portfolio performance measures and, learn about subtle tricks that some funds can use to “dress up” performance records and charge unwarranted fees.

An optional and practical one-day investment fund selection workshop will also include various fund case studies and exercises to reinforce the definitive selection techniques learnt. Participants get to perform an investment fund selection role-play in order to evaluate and screen funds for specific investment criteria and answer the question: “Is my fund manager giving me my money’s worth?”

TECHNICAL ANALYSIS CMT 1
A must attend 4-day course for investment professionals wishing to prepare for the CMT Level I professional qualification in Technical Analysis from the Market Technicians Association (MTA). Using real-life charts, participants learn traditional technical tools of charting and many specialized topics. Whilst the course focuses on US equities, other markets including GCC stocks and real estate will also be explored. An optional 1-day session entirely dedicated to exploring trading opportunities for US and GCC equities, FX, commodities and bonds using technical analysis. Prior workshops correctly called the rise of the US market and the decline of the Saudi market by blending technical indicators. This course should help answer the question: “Buy or Sell and When”

INTRODUCTION TO STEALTH TRADING USING FUSION, ALGORITHMS, AND DERIVATIVES FOR PROFESSIONALS-
Today, portfolio managers increasingly must use stealth trading in order to disguise their intentions and thus benefit from best execution. The old ways of staring at a Bloomberg to get bid/ask quotes and transacting an order is gradually being supplemented by more sophisticated strategies, such as, algorithmic models to meet various investment goals. The objective of this course is to give the student an introduction to various trading strategies that can achieve best execution.

This course should help achieve: “Best Execution.”

ADVANCED CAPITAL MARKETS ANALYSIS
Spot, forwards, futures, swaps, options, and statistical issues are discussed in dynamic capital market strategies. This course was first introduced as a course to a top Ivy Business School. Solving the course problems and cases has brought angst to MBA and CFA candidates. Still, the topics are the food for advanced hedge fund techniques.

Instructor John Palicka CFA CMT is a top-ranked portfolio manager of Global Emerging Growth Capital (WWW.GLGEGC.COM) with over 25 years experience of managing $ billions. He has doubled client money, on average, every four years since 1980*. His high course ratings from major investment firms reflect clear interpretations and practical applications of complex topics; knowledge applied to examples and cases found in the current worldwide and GCC marketplace; his experience with specific situations actually encountered in his career and consulting contracts that parallel the learning topics. John has an MBA from Columbia University and also teaches these courses for leading training institutions, including The New York Institute of Finance (WWW.NYIF.COM).

To find out more about these courses in GCC locations, please call Esam Hassanyeh + 9714 391 0234 or visit his website: www.enhance.ae

* Past performance is no guarantee of future results.
In the eleven years that I have been a practicing technical analyst, acceptance of technical research as a viable tool for investing has increased dramatically. This is heartening because it has largely been driven by strong efforts from the Market Technicians Association and its affiliates. In 2004, the MTA's efforts were acknowledged by the SEC in their allowing Chartered Market Technicians to use their designation as an exemption from the Series 86 exam administered to publishing analysts. This not only benefited me directly by giving me added credibility as Chief Market Technician for my firm MKM Partners LLC, but also made me proud that my profession had gone from being considered voodoo by some to being considered respectable by many.

My career in technical analysis started even before I graduated from college. I was fortunate enough to be a student at the University of Richmond’s undergraduate business school, which pioneered a program in technical analysis in 1996. I signed up for a course titled “Special Topics in Finance” and attended my first ever class that was full of graduate students. Interest in the class among graduate and undergraduate students has been in an upward trend since that first year it was offered. When I was enrolled in the course, I had an internship with a local technical research firm called Dorsey, Wright & Associates, a leading provider of point and figure charting for Wall Street institutions. Getting real-time exposure to real-world technical analysis while I learned its academic tenets was more than I could have hoped for as I developed my career aspirations.

The course in technical analysis was unlike any others I had taken because it was (and still is) taught primarily by guest lecturers. For an impressionable college student, my career choice was solidified when I listened to some of the MTA’s founding members including Ralph Acampora and Phil Roth, explain their technical take on the market. I remember Ralph standing in front of our class and tearing the Wall Street Journal in two pieces, but now they seem to have a better understanding of it. An ongoing challenge for technical analysts on Wall Street has been to tie the revenues of the firm directly to their departments, particularly at large firms where the channels of communication are less direct. This has made it difficult for technical analysts to find jobs, particularly in tenuous markets. Nevertheless, I believe the success I have had at my firm can be duplicated through continued efforts to educate the public about the benefits and practical applications of technical research.

Katie Stockton, CMT joined MKM Partners in August 2004 as Chief Market Technician. Prior to joining MKM, Mrs. Stockton worked as a trader for New York-based hedge fund Ulysses Management and was a publishing analyst for Morgan Stanley’s technical strategy group. Her career began in 1997 in San Francisco, where she worked as a technical analyst for Wit Soundview. Mrs. Stockton is frequently featured on CNBC, Bloomberg Television and quoted in the Wall Street Journal, Barron’s, and the Dow Jones newswires. She received her Chartered Market Technician (CMT) designation in 2001, and graduated magna cum laude with a BSBA from the University of Richmond.

2009 Charles H. Dow Award Competition

By George A. Schade, Jr., CMT

The competition for the 2009 Charles H. Dow Award is open. The Award for excellence and creativity in technical analysis has been presented since 1994, and today is the most significant writing competition in the field. The recipients of the Award are among the most notable market technicians. The success of the Award has resulted in an enhanced cash prize.

The winning author will receive a cash prize of $4,000.00 and will be invited to present their paper at an MTA seminar or chapter meeting. The paper or a summary may be published in the MTA’s Journal of Technical Analysis, Technically Speaking newsletter, and posted to mta.org. At the discretion of the judging panel, the authors of runner-up papers will receive certificates.

The last day to submit papers is February 6, 2009, and the winner will be selected on or before May 8, 2009. The 2009 guidelines (below) and copies of all winning papers are posted on mta.org under Activities. Submit inquiries to DowAward@mta.org.

“...We recommend taking exposure off and letting the market prove itself from this level. We continue to believe a long-term actionable low is more likely late in Q3 or early Q4.”

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The Importance of Mid-Term Year Lows
By Paul Shread, CMT

Much has been made of the extraordinary stock market gains that have historically followed mid-term election year lows, but not nearly enough has been made of the importance of the lows themselves.

So with that, I offer an observation on mid-term election year lows – and a possible explanation that is deeply relevant both to current market action and the future of the economy.

Since 1934 (basis DJIA), mid-term election year lows have held until the next mid-term low four years later, and if broken decisively, broken only at the end of the next four-year cycle low (1970, 1974, 2002). 1947-1949 saw multiple tests and even a breach or two of the 1946 low, but it essentially held. The 1987 crash came nowhere near the 1986 low, which was set at the start of the year, but found support near the bottom of a large consolidation that occupied the market for much of 1986.

That more than 70-year-old historical precedent held until September, when the Dow breached its 2006 low of 10,683 amid the worst financial crisis since the Great Depression.

Before this year’s historic action, you have to go back to 1930 to find a mid-term year low that failed to hold for at least a few years, and therein, I think, lies the importance of mid-term year lows. The pattern also generally holds true in the early part of the twentieth century, with the notable exception of the panics of 1903 and 1907.

Since the Great Depression, a widespread belief has emerged that economic cycles can be controlled to some extent by the actions of the Federal Reserve and the U.S. government to stimulate the economy. The notion of the four-year market cycle itself comes from the observation that presidents are likely to make every effort to stimulate the economy in the months leading up to a presidential election, and to put off tough economic decisions until after election day.

The enduring strength of mid-term year lows thus likely has to do with the effectiveness of monetary policy – if efforts to stimulate the economy in the two years leading up to the presidential election are effective, then the lows of the weakest part of the cycle should hold at least until the next period of lower stimulus a few years later.

When the Dow decisively breached its 2006 low of 10,683 earlier this fall, the market’s message was simple: federal (and global) efforts to combat the financial crisis were inadequate for preventing it from becoming a more serious systemic crisis. It is no small coincidence that the day after the Dow closed 0.7% below that level on Sept. 17, the credit markets came unglued and the Bush administration swung into action with a massive financial rescue package.

The steep plunge in the market since that time suggests that we may be entering an extended period of sub-par growth, as the financial system has become too choked with debt to respond effectively to aggressive stimulus. About the only bright spot is that the market has already held up better than it did in 1930, when the low wasn’t set until the end of the year and was broken a little more than four months later. So we may not necessarily be headed for another Great Depression, but the market is telling us that the road ahead won’t be easy.

Some Examples of Mid-Term Lows

Charts courtesy of moneycentral.msn.com

Paul Shread, CMT, is business editor at Internet-News.com and a contributor to an upcoming book on Charles Dow (W&A Publishing)
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